Research Paradigms

Positivism, Interpretivism and Pragmatism

A student-friendly lecture on philosophical assumptions, methodological choices, and practical research design decisions.

Ontology
What is real?

Epistemology
How do we know?

Methodology
How do we study?

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ROADMAP

Lecture Overview

This lecture introduces the three paradigms most commonly discussed in research methods courses and shows how they guide research questions, designs, data collection, analysis and interpretation.

1	**Meaning of research paradigms**	Core assumptions and why they matter
2	**Positivism**	Measurement, objectivity and hypothesis testing
3	**Interpretivism**	Meaning, context and lived experience
4	**Pragmatism**	Problem-solving and mixed-method logic
5	**Application**	Examples, ethics, activities and knowledge checks

BY THE END OF THIS LECTURE

Learning Objectives

Define research paradigm and explain its role in academic research.

- Distinguish ontology, epistemology, axiology and methodology.
- Compare positivism, interpretivism and pragmatism using clear criteria.
- Select an appropriate paradigm for a given research problem.
- Explain how paradigms influence sampling, data collection and analysis.
- Identify ethical and practical issues linked to paradigm choice.

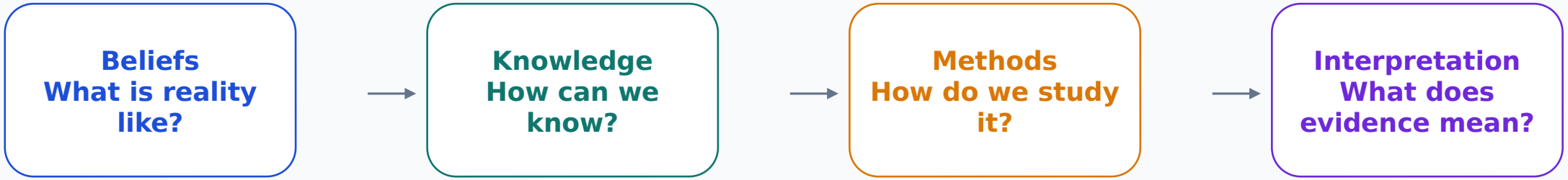
Define
Compare
Apply
Evaluate

Measurable verbs help students know what they should be able to do after the lecture.

FOUNDATION

Introduction: Why Paradigms Matter

A research paradigm is a broad worldview that guides how a researcher understands reality, knowledge, values and inquiry. It influences the type of questions asked, the kind of evidence collected and the way findings are interpreted.



Good paradigm awareness helps researchers justify design decisions instead of choosing methods randomly.

CORE VOCABULARY

Key Definitions

Term	Student-friendly meaning
Paradigm	A worldview that shapes what counts as reality, knowledge and valid research.
Ontology	Assumptions about the nature of reality: single, multiple, objective or constructed.
Epistemology	Assumptions about how knowledge is produced and justified.
Axiology	Assumptions about the role of values, ethics and researcher influence.
Methodology	The overall strategy or logic of inquiry used to answer the research question.

Tip: Methods are tools; methodology is the logic for using those tools.

HOW THE IDEA DEVELOPED

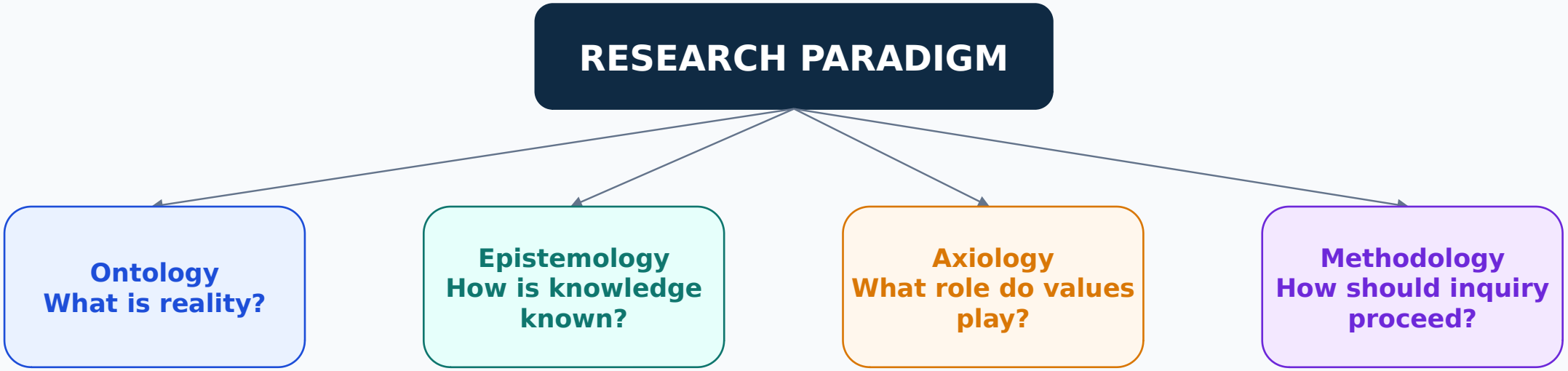
Background and Academic Context

Positivism became strongly associated with the natural sciences, measurement and causal explanation.

- Interpretivist traditions developed to study social meaning, culture, language and human experience.
- Pragmatism gained influence as researchers combined methods to answer practical questions.
- Modern research often uses paradigm language to justify designs, especially in qualitative and mixed-methods studies.

FOUR ASSUMPTION AREAS

Anatomy of a Research Paradigm



These assumptions work together. A researcher’s answer to one assumption often affects the others.

Paradigm 1: Positivism

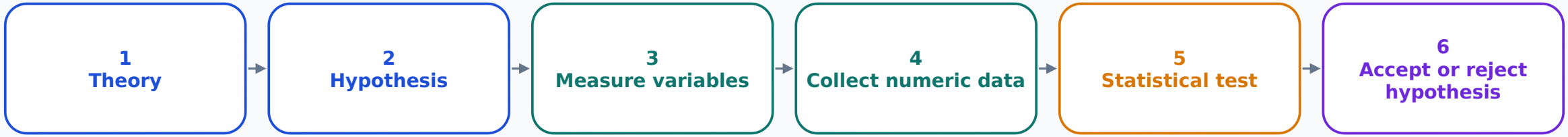
Positivism assumes that reality exists independently of the researcher and can be studied through observation, measurement, logic and systematic testing.

Objective reality | **Measurement** | **Hypotheses** | **Causality** | **Generalization**

Assumption	Positivist orientation
Ontology	Reality is external and can be measured.
Epistemology	Knowledge is produced through observation and testing.
Axiology	Researcher values should be minimized or controlled.
Methodology	Usually quantitative, experimental, survey or statistical designs.

TYPICAL RESEARCH LOGIC

Positivism in Practice



Research questions often ask whether one variable affects, predicts or relates to another.

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- Sampling aims to support objectivity, reliability and possible generalization.
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- Analysis often uses statistics to estimate patterns, differences or relationships.
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- Interpretation focuses on evidence, probability, error and alternative explanations.

Example
Does sleep duration predict exam performance among undergraduate students?

Likely methods
Survey + exam scores + regression analysis

MEANING AND CONTEXT

Paradigm 2: Interpretivism

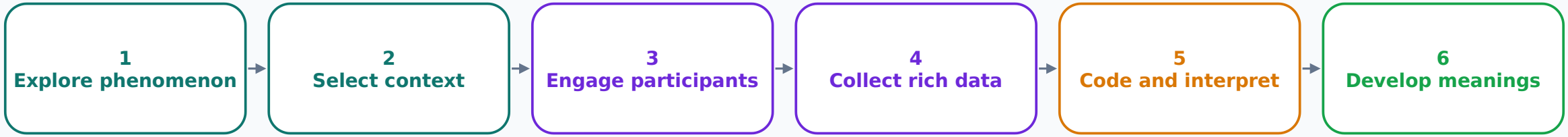
Interpretivism assumes that social reality is meaningful and often constructed through human interaction, culture, language and context.

Multiple realities | **Meaning** | **Context** | **Experience** | **Understanding**

Assumption	Interpretivist orientation
Ontology	Reality is socially constructed and may differ across people or groups.
Epistemology	Knowledge develops through interpretation and researcher-participant interaction.
Axiology	Researcher values and positioning should be acknowledged.
Methodology	Usually qualitative, with interviews, observations, documents or case studies.

TYPICAL RESEARCH LOGIC

Interpretivism in Practice



Research questions often ask how people experience, understand or make meaning of a situation.

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- Sampling is usually purposive because participants are selected for relevance and insight.
-
- Data are commonly words, images, observations, stories or documents.
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- Analysis may use thematic analysis, narrative analysis, discourse analysis or case analysis.

Example
How do first-year students experience academic adjustment at university?

Likely methods
Semi-structured interviews + thematic analysis

RESEARCH THAT WORKS FOR THE PROBLEM

Paradigm 3: Pragmatism

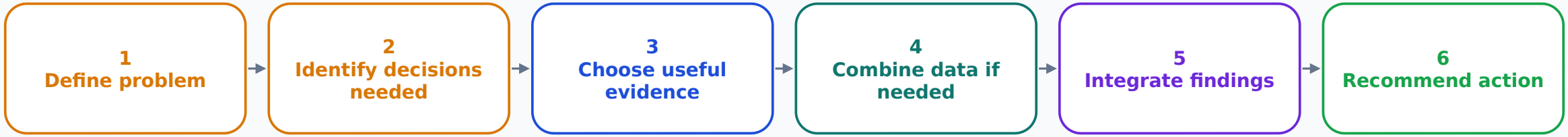
Pragmatism focuses on the research problem and asks which combination of assumptions, methods and evidence will best answer the question and support useful action.

Problem-centered | **Consequences** | **Mixed methods** | **Action** | **Usefulness**

Assumption	Pragmatist orientation
Ontology	Reality can be understood through practical consequences and experiences.
Epistemology	Knowledge is judged by how well it helps answer the problem.
Axiology	Values are part of inquiry and should be transparent.
Methodology	Often mixed methods, but may use any design that fits the question.

TYPICAL RESEARCH LOGIC

Pragmatism in Practice



Research questions may combine “what works,” “why it works” and “for whom it works.”

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- Designs often integrate surveys, interviews, experiments, observations or administrative data.
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- Analysis may combine statistics with qualitative interpretation.
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- Findings are judged by explanatory value, practical relevance and methodological transparency.

Example
Does a digital learning platform improve engagement, and how do students experience it?

Likely methods
Platform analytics + survey + focus groups

DIFFERENT STARTING POINTS

Three-Paradigm Map

Paradigm	Best for questions about…	Typical evidence
Positivism	Cause, prediction, measurement, comparison	Numbers, variables, tests
Interpretivism	Meaning, lived experience, culture, process	Words, stories, observations
Pragmatism	Practical solutions, implementation, decisions	Integrated evidence

Comparison Table: Core Assumptions

Criterion	Positivism	Interpretivism	Pragmatism
Reality	External and measurable	Multiple and socially constructed	Understood through consequences
Knowledge	Objective evidence and testing	Meaningful interpretation	Useful answers to problems
Researcher role	Detached observer	Engaged interpreter	Reflective problem-solver
Common data	Quantitative variables	Qualitative accounts	Quantitative + qualitative
Quality focus	Reliability, validity, control	Credibility, depth, reflexivity	Fit, integration, usefulness

Use the table as a guide, not as a rigid rule. Real studies may combine ideas carefully.

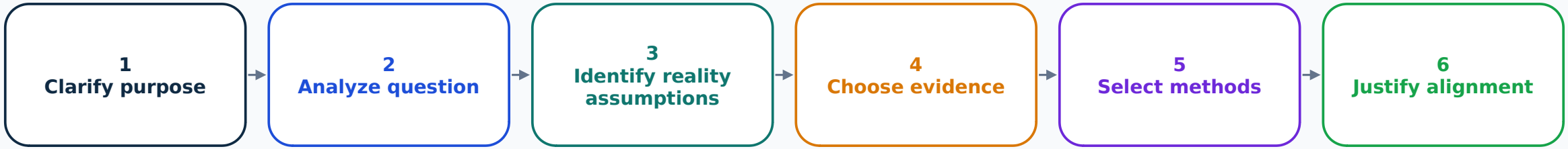
FROM PHILOSOPHY TO DESIGN

How Paradigms Shape Methodological Decisions

Design decision	Positivist tendency	Interpretivist tendency	Pragmatist tendency
Question wording	Does X affect Y?	How do people experience X?	What works and why?
Sampling	Representative or probability	Purposive, theoretical or snowball	Fit-for-purpose combination
Data collection	Survey, test, experiment	Interview, observation, document	Mixed or sequential design
Analysis	Statistical analysis	Coding and interpretation	Integrated analysis
Output	Generalizable pattern	Context-rich understanding	Actionable explanation

RESEARCH DESIGN ALIGNMENT

Step-by-Step Process: Choosing a Paradigm



1. Clarify purpose

Explain whether your study aims to measure, understand, evaluate or solve a problem.

2. Analyze question

Look for words such as “effect,” “experience,” “meaning,” “works,” or “implementation.”

3. Align design

Make sure paradigm, methods, analysis and interpretation tell a coherent story.

QUESTION CLUES

Linking Research Problems to Paradigms

Problem statement clue	Likely paradigm	Possible design
“We need to test whether the program increases learning scores.”	Positivism	Quasi-experiment or survey
“We need to understand how teachers experience the program.”	Interpretivism	Interviews or case study
“We need to know if the program works and how to improve it.”	Pragmatism	Mixed-method evaluation
“We need to describe different stakeholder meanings.”	Interpretivism	Focus groups + thematic analysis
“We need evidence for a practical policy decision.”	Pragmatism	Survey + interviews + documents

Paradigm choice should be justified by the research problem, not by personal preference alone.

APPLIED UNDERSTANDING

Practical Examples Across Disciplines

Discipline	Positivism	Interpretivism	Pragmatism
Social sciences	Measure link between income and voting behavior	Explore meanings of civic participation	Evaluate a community engagement program
Business	Test effect of pricing on sales	Understand customer trust narratives	Improve customer experience using surveys and interviews
Education	Compare test scores after an intervention	Study teachers’ classroom experiences	Assess learning outcomes and student feedback
Health sciences	Test treatment adherence predictors	Explore patient experiences of care	Design and evaluate a patient-support tool
IT	Measure usability score differences	Explore user perceptions of privacy	Develop and evaluate a digital service

Detailed Research Scenario

Topic: Digital learning platform adoption among undergraduate students

Element	Scenario detail
Research problem	The university introduced a digital learning platform, but student engagement varies widely.
Research question	How does platform use relate to engagement, and how do students explain their experience?
Population / participants	Undergraduate students using the platform in one academic year.
Data collection	Platform analytics, engagement survey and focus group interviews.
Data analysis	Descriptive statistics, correlation analysis and thematic analysis.
Expected interpretation	A pragmatist interpretation integrates numeric patterns with student explanations.

HOW FRAMING CHANGES THE STUDY

Same Topic, Different Paradigms

Paradigm	Possible research question	Likely data and analysis
Positivism	Does time spent on the platform predict final course grade?	Usage logs, grades, regression analysis
Interpretivism	How do students make sense of learning through the platform?	Interviews, reflective journals, thematic analysis
Pragmatism	What improves platform engagement and why?	Analytics, survey, focus groups, integrated interpretation

WHY STUDENTS SHOULD CARE

Advantages of Understanding Research Paradigms

Design coherence

Links research problem, question, methods and interpretation.

Stronger justification

Helps defend methodological choices in proposals, theses and articles.

Better critical reading

Allows readers to identify assumptions in published research.

Method fit

Prevents choosing tools only because they are familiar or popular.

Ethical awareness

Makes researcher values, power and participant relationships more visible.

WHAT TO WATCH OUT FOR

Limitations and Challenges

Paradigm labels can be oversimplified, especially when studies combine traditions.

- Students may treat paradigms as fixed boxes rather than flexible philosophical positions.
- Some disciplines use different terms or disagree about paradigm boundaries.
- Overemphasis on philosophy may distract from practical research quality if not connected to design.
- Mixed-method studies may become incoherent if integration and rationale are weak.

A paradigm is a guide, not a prison.

Use paradigm language to improve clarity, not to force every study into a rigid category.

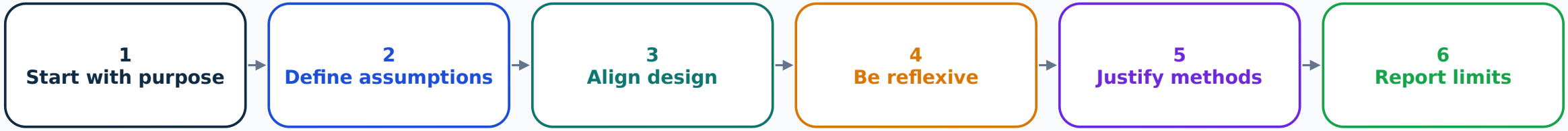
AVOID THESE PROBLEMS

Common Mistakes by Beginning Researchers

- Calling every quantitative study “positivist” without checking assumptions.
- Calling every qualitative study “interpretivist” without explaining meaning and context.
- Choosing pragmatism only because mixed methods sounds impressive.
- Failing to align research question, sampling, data collection and analysis.
- Ignoring researcher positionality in interpretive or participatory work.
- Writing a philosophy section that does not connect to actual methods.

PRACTICAL RECOMMENDATIONS

Best Practices for Applying Paradigms



State your paradigm in clear language and avoid unnecessary philosophical jargon.

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- Explain how your paradigm supports your research question and design.
-
- Use paradigm language consistently across methodology, analysis and interpretation sections.
-
- Acknowledge values, assumptions and limitations honestly.
-
- Use credible methodological literature to support your position.

Ethical Considerations

Issue	Why it matters
Consent and autonomy	Participants should understand the study purpose, risks and voluntary nature of participation.
Confidentiality	Sensitive quantitative and qualitative data must be protected.
Bias and reflexivity	Researchers should identify assumptions, especially in interpretive and mixed-method studies.
Transparency	Methods, limitations and analytic decisions should be reported clearly.
Power relationships	Participant voices should not be distorted, especially in qualitative research.
Academic integrity	Paradigm statements should be accurate and supported by research methods literature.

INDIVIDUAL OR GROUP EXERCISE

Classroom Activity: Match the Paradigm

Activity objective

Students practice identifying a suitable paradigm and justifying their choice using research question clues.

Instructions

In groups, choose one research question. Identify the likely paradigm, data collection method and analysis strategy. Prepare a 2-minute justification.

Expected outcome

Students should explain alignment between problem, paradigm, methods and interpretation.

Does flexible work increase employee productivity?

How do nurses experience emotional labor during night shifts?

What combination of teaching strategies improves online participation and why?

FOR CLASSROOM REFLECTION

Discussion Questions

Can a study be “objective” if a researcher chooses the topic, variables and instruments?

- When is deep understanding more valuable than generalization?
- Is pragmatism a strong philosophical position or mainly a practical strategy?
- How does researcher positionality affect interpretation?
- Can mixed methods solve paradigm conflicts, or can they create new problems?
- Which paradigm best fits your current or planned research topic?
- What evidence would convince you that a research design is well aligned?

QUESTIONS

Knowledge Check

1. Which term refers to assumptions about the nature of reality?
•
• 2. Which paradigm is most associated with measurement and hypothesis testing?
•
• 3. Which paradigm emphasizes meaning, context and lived experience?
•
• 4. Which paradigm is often used to justify mixed-method research?
•
• 5. Name one common data collection method for interpretivist research.
•
• 6. What does axiology refer to in research philosophy?
•
• 7. Why should paradigm, question and method be aligned?
•
• 8. Identify one risk of using “pragmatism” without clear justification.

SUGGESTED ANSWERS

Knowledge Check Answer Key

Q	Answer
1	Ontology.
2	Positivism.
3	Interpretivism.
4	Pragmatism.
5	Examples: interview, observation, focus group, document analysis.
6	The role of values, ethics and researcher influence in inquiry.
7	Alignment makes the design coherent and defensible.
8	Risk: “anything goes,” weak integration, or methods chosen without rationale.

SUMMARY

Key Takeaways

1. **Paradigms shape research** — They guide assumptions about reality, knowledge, values and methods.
2. **Positivism measures** — It is useful for testing relationships, prediction and causal explanation.
3. **Interpretivism understands** — It is useful for meanings, experiences and context-rich inquiry.
4. **Pragmatism solves** — It is useful for practical questions and integrated evidence.
5. **Alignment is essential** — The research question, paradigm, methods and interpretation must fit together.

Conclusion

Research paradigms help scholars make thoughtful decisions about what they study, what evidence they collect and how they interpret findings. Positivism, interpretivism and pragmatism offer different but valuable ways of designing research.

A strong researcher can explain not only what method was used, but why that method fits the worldview, question and purpose of the study.

APA 7TH EDITION

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